

# POWER SUPPLY DEVICE FOR LIGHTING COLD CATHODE DISCHARGE LAMP HAVING GROUND PROTECTION FUNCTION

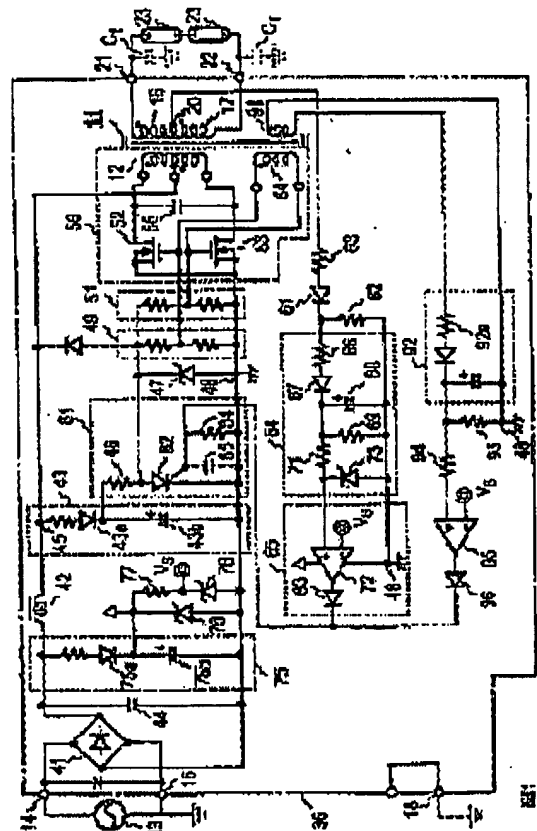
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## Abstract of JP2003017287

**PROBLEM TO BE SOLVED:** To make simple the structure of a transformer and prevent occurrence of malfunction by the leakage current in the high frequency lighting.

**SOLUTION:** The middle point 20 of a secondary coil is connected to the common potential point 48 through a resistor element 63, a rectifier element 61, and a resistor element 62, and by increasing the resistance value of the resistor element 63, the middle point 20 is made a state of non-grounding, and the current flowing in the resistor element 62 is detected by the detection circuit 64, and this detected voltage and the standard voltage  $V_s$  are compared by a comparator 72. In the normal state, the potential at the middle point 20 is nearly zero and the current flowing in the resistor element 62 is small, and the output of the comparator 72 is in low level. When, however, grounding occurs on the secondary side, the potential at the middle point 20 rises and a large current is flown in the resistor element 62, and the output of the comparator 72 becomes high level. Thereby, the thyristor 82 is conducted and each of the both ends of the resistance type potential divider 49, 51 becomes in a short circuit state, and the gate bias of the FET 52, 53 is eliminated and the inverter 56 cannot make oscillation.



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